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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/214,519	01/07/1999	TOSHIAKI HASHIZUME	101850	8609

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EXAMINER

LEROUX, ETIENNE PIERRE

ART UNIT PAPER NUMBER

2161

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/214,519

Applicant(s)

HASHIZUME ET AL.

Examiner

Etienne P LeRoux

Art Unit

2161

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 1999 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 02/28/2005.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Claims Status

Claims 20-32 are pending. Claims 1-19 and 33-44 have been canceled. Claims 20-32 are rejected in this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 20, 21, 23, 28, 29 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,982,538 issued to Shikama et al (hereafter Shikama) and further in view of US Pat No 5,651,599 issued to Fujimori et al (hereafter Fujimori '599), as best examiner is able to ascertain.

Claim 20:

Art Unit: 2161

Shikama discloses a projector [Fig 1] comprising:

- a light source [Shikama, Fig 1, 18];
- a plurality of optical modulation devices [Shikama, Fig 1, 6R, 6G, 6B] that modulate a light flux emitted from the light source according to image information;
- a prism [Shikama, Fig 1, 8] that synthesizes the light flux modulated by the plurality of optical modulation devices;
- a projection unit [Shikama, Fig 1, 11] that magnifies and projects the light flux synthesized by the prism;
- a transparent plate [Shikama, Fig 2, 24] bonded to and in contact with substantially an entire at least one surface of the plurality of optical modulation devices [Shikama, Fig 2, 23];
- a plurality of fixed frame plates that hold at least one of the plurality of optical modulation devices or at least one of the plurality of optical modulation devices and transparent plates, each mounting frame plate being detachably fixed to at least one of the plurality of fixed frame plates [Shikama, Fig 1];

Shikama discloses the elements of instant claim as noted above. Shikama fails to disclose a plurality of mounting frame plates that hold the optical modulation device, and the transparent plate, each mounting frame plate being detachably fixed to each fixed frame plate. Fujimori '599 discloses a plurality of mounting frame plates that hold optical modulation devices and other optical elements, each mounting frame plate being detachably fixed to each fixed frame plate [Fig 10]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Shikama to include a plurality of mounting frame plates that hold

Art Unit: 2161

optical modulation devices as taught by Fujimori '599 for the purpose of securing the optical devices to the lower chassis. The skilled artisan would have been motivated to improve the invention of Shikama per the above such that the optical elements would remain securely in position even if excessive force is applied to the outer case of the liquid crystal video projector and so that the optical elements can be removed and replaced [col 14, lines 27-33].

Claim 21:

The combination of Shikama and Fujimori '599 discloses a polarizer [Shikama, Fig 2, 22] bonded to the transparent plate [Shikama, Fig 2, 24].

Claim 23:

The combination of Shikama and Fujimori '599 discloses the transparent plate being formed on a light emitting surface of the optical modulation devices [Shikama, Figs 1 and 2].

Claim 28:

The combination of Shikama and Fujimori '599 discloses the mounting frame plate composed of a first member and a second frame member that sandwich the optical modulation device the transparent plate, and the fixed frame plate [Fujimori '599, Fig 10, 7a, 7b, 7c]

Claim 29:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above. Regarding claim 20, Shikama fails to disclose an intermediate frame plate disposed between the mounting frame plate and the fixed frame. However, Shikama does disclose a polarizer [Fig 2, 22] and a polarization switch [Fig 2, 7] between the light valve [Fig 2, 6] and the prism [Fig 2]. Fujimori '599 discloses a plurality of frames for optical devices including polarizers and light valves [Fig 10]. It would have been obvious to one of ordinary skill in the

Art Unit: 2161

art at the time the invention was made to modify Shikama to include an intermediate frame plate disposed between the mounting frame plate and the fixed frame plate as taught by Fujimori '599 for the purpose of maintaining the positions of the optical devices [Fujimori '599, col 14, lines 25-32]. The skilled artisan would have been motivated to improve the invention of Shikama per the above to prevent deviations in the positions of the optical devices and thereby projecting more beautiful pictures [Fujimori '599, col 14, lines 32-35].

Claim 32:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above. Furthermore, Fujimori '599 discloses a power supply unit [Fig 14, 95]; an interface circuit [Fig 14, 80], a control circuit [Fig 14, 100] that controls the optical modulation devices; and an outer casing [Fig 14, 70] that accommodates the light source, the plurality of optical modulation devices, the prism, the transparent plate, the plurality of fixed frame plates, the plurality of mounting frame plates, the power supply unit, the interface circuit, and the control circuit.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 3,910,682 issued to Arai et al (hereafter Arai).

Claim 22:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above. The combination of Shikama and Fujimori '599 fails to disclose said transparent plate having a surface and the surface of said transparent plate being coated with a surface active

Art Unit: 2161

agent, or treated for electrostatic protection. Arai discloses said transparent plate having a surface and the surface of said transparent plate being coated with a surface active agent, or treated for electrostatic protection [Fig 2, 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Shikama and Fujimori '599 to include said transparent plate having a surface and the surface of said transparent plate being coated with a surface active agent, or treated for electrostatic protection as taught Arai for the purpose of omitting the washing step [col 2, lines 45-55].

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 4,715,686 issued to Iwashita et al (hereafter Iwashita), as best examiner is able to ascertain.

Claim 24:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above. The combination of Shikama and Fujimori '599 fails to disclose an antireflection film formed on at least one surface of said transparent plate. Iwashita discloses an antireflection film formed on at least one surface of said transparent plate [Fig 1, 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Shikama and Fujimori '599 to include an antireflection film formed on at least one surface of said transparent plate as taught by Iwashita in order to provide endurance against abrasion as well as superior visibility of display [col 2, lines 10-12].

Art Unit: 2161

Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 5,508,834 issued to Yamada et al (hereafter Yamada), as best examiner is able to ascertain.

Claim 25:

The combination of Shikama and Fujimori '599 discloses the elements of 20 as noted above. The combination of Shikama and Fujimori '599 fails to disclose the transparent plate having a thickness and said projection unit having a focal depth, and the thickness of said transparent plate being set larger than the focal depth of said projection unit. Yamada discloses said transparent plate having a thickness and said projection unit having a focal depth, and the thickness of said transparent plate being set larger than the focal depth of said projection unit [col 4, lines 15-25]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Shikama and Fujimori '599 to include said transparent plate having a thickness and said projection unit having a focal depth, and the thickness of said transparent plate being set larger than the focal depth of said projection unit as taught by Yamada for the purpose of preventing dust or fluff causing an adverse effect on the image quality [col 4, lines 15-24].

Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 5,508,834 issued to Yamada et al (hereafter Yamada), as best examiner is able to ascertain.

Claim 26:

Art Unit: 2161

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above. The combination of Shikama and Fujimori '599 fails to disclose a polarizer having an optical axis interposed between said transparent plate and said projection unit, said transparent plate being made of a drawing resin and having an optical axis, and the optical axis of said transparent plate substantially aligns with the optical axis of said polarizer. Yamada discloses a polarizer having an optical axis interposed between said transparent plate and said projection unit, said transparent plate being made of a drawing resin and having an optical axis, and the optical axis of said transparent plate substantially aligns with the optical axis of said polarizer [col 6, line 60 and Fig 7, 9 and Fig 7, 7 and Fig 2, 209]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Shikama and Fujimori '599 to include a polarizer having an optical axis interposed between said transparent plate and said projection unit, said transparent plate being made of a drawing resin and having an optical axis, and the optical axis of said transparent plate substantially aligns with the optical axis of said polarizer as taught by Yamada for the purpose of providing a projection apparatus.

Claim 27:

The combination of Shikama, Fujimori '599 and Yamada discloses the elements of claim 26 as noted above. Furthermore, Yamada discloses said polarizer comprising a polarizing layer and a pair of substrates that sandwich said polarizing layer and are made of a substrate material, and said transparent plate being made of the substrate material used in making said substrates [Fig 6, 8 and Fig 6, 6 and Fig 6, 2]

Art Unit: 2161

Claims 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 5,399,850 issued to Nagatani et al (hereafter Nagatani) as best examiner is able to ascertain.

Claim 30:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above but fails to disclose the mounting frame plate being made of a resin containing glass fiber. Nagatani discloses the mounting frame plate is made of a resin containing glass fiber [col 9, lines 25-30]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Shikama and Fujimori '599 to include the mounting frame plate being made of a resin containing glass fiber as taught by Nagatani for the purpose of matching the coefficients of linear expansion such that distortion does not arise in the projected image.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Shikama and Fujimori '599 and further in view of US Pat No 5,806,950 issued to Gale et al (hereafter Gale), as best examiner is able to ascertain.

Claim 31:

The combination of Shikama and Fujimori '599 discloses the elements of claim 20 as noted above but fails to disclose the mounting frame plate being made of metal. Gale discloses the mounting frame plate is made of metal [Fig 15A]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of

Art Unit: 2161

Shikama and Fujimori '599 to include the mounting frame plate being made of metal as taught by Gale for the purpose of using a material that is economically very competitive.

Response to Arguments

Applicant's arguments filed 2/28/2005 have been fully considered but they are not persuasive.

Applicant Argues:

Applicant states in the second paragraph on page 7, "Thus, Applicants respectfully submit that neither Shikama nor Fujimori, nor the combination of the two, can reasonably be read to teach, or even to have suggested, the structure of the fixed frame plates and mounting frames as specifically recited in at least independent claim 20. As such, Applicants respectfully submit that the combination of all of the features recited in at least independent claim 20 are neither taught, nor would they have been suggested, by the combination of the applied references. Further, Applicants respectfully submit that dependent claims 21, 23, 28, 29 and 32 are also nether taught, nor would they have been suggested, by the combination of the applied references for at least the respective dependence of these claims on independent claim 20, as well as for the separately patentable subject matter which each of these claims recites.

Examiner Responds:

Examiner is not persuaded. Applicant states on page 7 that the combination of Shikama and Fujimori does not teach the limitations of claim 20. Examiner is not convinced as the combination of features of Shikama and Fujimori relevant to the present

Art Unit: 2161

invention is mapped, element by element to the claim to the limitations of claim 20.

Furthermore, examiner notes Rule 37CFR 1.111(b) requires Applicant to "distinctly and specifically point out errors" in the examiner's action. Also, arguments or conclusions of Applicant cannot take the place of evidence. *In re Cole*, 51 CCPA 919, 326F.2d 769, 140 USPQ 230 (1964).

Applicant Argues:

The office action, on pages 7-18, varyingly rejects claims 22, 24-27, 30 and 31 and 33-44 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Shikama and Fujimori in various combinations with U.S. Patents Nos. 3,910,682 to Arai et al., 4,715,686 to Iwashita et al., 5,508,834 to Yamada et al., 5,399,850 to Nagatani et al., 5,806,950 to Gale et al., and 6,007,205 to Fujimori. The cancellation of claims 33-44 renders the rejection moot as to these claims. Regarding the rejection of claims 22, 24-27, 30 and 31, these rejections are respectfully traversed.

Applicants respectfully submit that none of the additional applied references disclose or suggest a combination of fixed frame plates and mounting frame plates as is specifically recited in independent claim 20. As such, none of these references overcome the shortfalls in the application of Shikama and/or Fujimori to at least independent claim 20. Applicants, therefore, respectfully submit that each of independent claims 22, 24-27, 30 and 31 are neither anticipated, nor would they have been suggested, by the combinations of the applied references for at least the respective dependence of these claims on independent claim 20, as well as for the patentably distinct subject matter which each of these claims recites.

Art Unit: 2161

Examiner Responds:

Examiner is not persuaded. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached on Monday – Friday from 8:00 AM to 4:30 PM.

Art Unit: 2161

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic, can be reached on (571) 272-4023.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2100.

Patent related correspondence can be forwarded via the following FAX number (703) 872-9306

Etienne LeRoux

4/25/2005


MOHAMMAD ALI
PRIMARY EXAMINER